May 2, 2002

Mr. Anthony R. Boothby
Calciment Blend Corporation
2070 Hedge Gate Blvd.
Beavercreek, OH 45431

Re: Interim Minor Source Modification Approval
I-097-15342-00424

Dear Mr. Boothby:

On April 25, 2002, the Indianapolis Office of Environmental Services (OES) received an interim minor source modification petition from Calciment Blend Corporation, Indianapolis, Indiana. Based on the data and information submitted in the petition and the provisions in 326 IAC 2-13-1, this interim minor source modification petition is hereby approved for a Blend Plant, located at 4192 South Harding Street, Indianapolis, Indiana, on the property of IPL Harding Street Station **(**Source ID 097-00033, 3700 South Harding Street, Indianapolis), consisting of:

(a) One (1) flyash and one (1) lime sylos;

(b) One (1) baghouse to control particulate emissions from the sylos, haul truck loading and unloading operations, and flyash-lime blending.

Detailed conditions will be specified in the final minor source modification 097-15342-00424. This interim minor source modification expires on the effective date of the final minor source modification. This interim minor source modification may be revoked after its effective date upon a written finding by the OES that any of the reasons for denial in 326 IAC 2-13-1(h) exist or if the final minor source modification is denied. The facilities subject to this approval may not operate until the final minor source modification is issued by OES.

Sincerely,

Original Signed by Jodi Perras Kusmer
Jodi Perras Kusmer
Acting Administrator
Office of Environmental Services

cc: Files
Air Compliance Section -- Matt Mosier
Mindy Hahn, IDEM
Title V file
IPL (Harding Street Station)

BG

Appendix A: Emission Calculations

Summary of Equipment - applicable rules

oiler Emission Units
ent/Applicable Rules
Summary

Company Name: napolis Power & Light Company (Perry K Steam Plant)
Address City IN Zip: 336 Kentucky Avenue, Indianapolis, IN 46225
CP:
Plt ID: T097-6567-00034
Reviewer: M. Caraher
Date: 15-Mar-99

Emission Unit ID	Stack/Vent ID	Boiler Mfgr & Type of Boiler	Installation Date	Fuel(s)	Maximum Capacity Rating	Design Heat Input (MMBTU/HR)	Applicable Rule Limitations	Limit	Rule	Control (Y/N); Type; ID; Pollutant(s); Stack ID
							PM	0.125 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
							PM10	NSR equation for #/MMBtu & 65.43 tpy** = COG	NSR Permit for COG	No;
11	3	Foster / Wheeler	1938				SO2	2.1 #/MMBtu or alternative; 2954.76 tpy** = COG	326 IAC 7-4-2; NSR Permit for COG	None;
							NOx	341.0 #/MMBtu & 1537.07 tpy** = COG NSR	NSR Permit for COG	None;
							CO	143.04 tpy** = COG	NSR Permit for COG	None;
							VOC	44.04 tpy** = COG	NSR Permit for COG	
			12 / 98	C.O.G.		382	COM	opacity	NSR Permit for COG	Stack/Vent 3
			modification	Natural Gas		368	Sulfuric Acid Mist	31.67 tpy** = COG	NSR Permit for COG	
							CEM	SO2, NOx & CO = COG	NSR Permit for COG	
				natural gas on startup			PM	0.175 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	Yes;
		Foster / Wheeler					PM10	none	---	ESP;
12	3		1938	coal	15.3	352	SO2	2.1 #/MMBtu or alternative	326 IAC 7-4-2	CE12;
		Pulverized - Dry Bottom			tons/hr		NOx	none	---	PM / (PM10);
							CO	none	---	
		Wall Fired					VOC	none	---	Stack/Vent 3
							COM	opacity	326 IAC 3-5(c)(2)(A)	
							PM	0.082 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
		Babcock & Wilcox					PM10	NSR equation for #/MMBtu & 65.43 tpy** = COG	NSR Permit for COG	No;
13	4		1946				SO2	2.1 #/MMBtu or alternative; 2954.76 tpy** = COG	326 IAC 7-4-2; NSR Permit for COG	None;
							NOx	381.7 #/MMBtu & 1537.07 tpy** = COG NSR	NSR Permit for COG	None;
							CO	143.04 tpy** = COG	NSR Permit for COG	
							VOC	44.04 tpy** = COG	NSR Permit for COG	None;
			10 / 98	C.O.G.		411	COM	opacity	NSR Permit for COG	
			modification	Natural Gas		403	Sulfuric Acid Mist	31.67 tpy** = COG	NSR Permit for COG	Stack/Vent 4
							CEM	SO2, NOx & CO = COG	NSR Permit for COG	
							PM	0.082 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
							PM10	NSR equation for #/MMBtu & 65.43 tpy** = COG	NSR Permit for COG	No;
14	4	Babcock & Wilcox	1946				SO2	2.1 #/MMBtu or alternative; 2954.76 tpy** = COG	326 IAC 7-4-2; NSR Permit = COG	None;
							NOx	381.7 #/MMBtu & 1537.07 tpy** = COG NSR	NSR Permit for COG	None;
							CO	143.04 tpy** = COG	NSR Permit for COG	
							VOC	44.04 tpy** = COG	NSR Permit for COG	None;
			10 / 98	C.O.G.		411	COM	opacity	NSR Permit for COG	
			modification	Natural Gas		403	Sulfuric Acid Mist	31.67 tpy** = COG	NSR Permit for COG	Stack/Vent 4
							CEM	SO2, NOx & CO = COG	NSR Permit for COG	
				natural gas on startup			PM	0.106 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
							PM10	none	---	Yes;
15	1	Babcock & Wilcox	1953	coal	14.1	324	SO2	2.1 #/MMBtu or alternative	326 IAC 7-4-2	ESP;
					tons/hr		NOx	none	---	CE 1516
		Spreader Stoker					CO	none	---	PM / (PM10);
							VOC	none	---	
							COM	opacity	326 IAC 3-5(c)(2)(A)	Stack/Vent 1
				natural gas on startup			PM	0.106 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
							PM10	none	---	Yes;
16	1	Babcock & Wilcox	1953	coal	14.1	324	SO2	2.1 #/MMBtu or alternative	326 IAC 7-4-2	ESP;
					tons/hr		NOx	none	---	CE 1516;
		Spreader Stoker					CO	none	---	PM / (PM10);
							VOC	none	---	
							COM	opacity	326 IAC 3-5(c)(2)(A)	Stack/Vent 1
							PM	0.015 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
							PM10	none	---	No;
17	1	Combustion Engineering	1974	# 2 fuel oil	1647	228	SO2	0.3 #/MMBtu	326 IAC 7-4-2	None;
					gal/hr		NOx	none	---	None;
		Distillate Oil Firing					CO	none	---	None;
							VOC	none	---	
							COM	no	326 IAC 3-5 exempts gas/oil	Stack/Vent 1
							PM	0.015 #/MMBtu & 484.4 tpy *	326 IAC 6-1-12	
							PM10	none	---	No;
18	1	Combustion Engineering	1972	# 2 fuel oil	1647	228	SO2	0.3 #/MMBtu	326 IAC 7-4-2	None;
					gal/hr		NOx	none	---	None;
		Distillate Oil Firing					CO	none	---	None;
							VOC	none	---	
							COM	no	326 IAC 3-5 exempts gas/oil	Stack/Vent 1

= NSR Modified units in 1998; nit issued March 6, 1998

*; 11 through 18 combined tons per year
**Is 11, 13 & 14 combined tons per year

Appendix A: Emission Calculations
Industrial Boilers - Distillate oil firing

Emission Unit ID's # 17 & # 18 Combustion Engineering Boilers

Company Name: **›lis Power & Light Company (Perry K Steam Plant)**
Address City IN Zip: **6 Kentucky Avenue, Indianapolis, IN 46225**
CP:
Plt ID: **T097-6567-00034**
Reviewer: **M. Caraher**
Date: **15-Mar-99**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
228.0	14266.3	0.3

	Pollutant					
	PM	SO2	NOx	VOC	CO	PM10
Emission Factor in lb/kgal	2.0	42.6 *(142.0S)*	20.0	0.20	5.0	1.0
Potential Emission in tons/yr	14.3	303.9	142.7	1.4	35.7	7.1

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-2, 1.3-4 (SCC 1-02-005-01/02/03) and 1.3-7

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Compliance Determination

PM emfac uncontrolled = 2 #/kgal	2 # / kgal x 1 kgal / 1000 gal x 1 gal / 0.14 MMBtu =	0.014 #'s PM / MMBtu
	326 IAC 6-1-12 =	**0.015 #'s PM / MMBtu**
SO2 emfac uncontrolled @ % S		
SO2 @ 0.3 % S = 142(S) / kgal	142(.3) # / kgal x 1 kgal / 1000 gal x 1 gal / 0.14 MMBtu =	0.3 #'s SO2 / MMBtu
	326 IAC 7-4-2 =	**0.3 #'s SO2 / MMBtu**

Contribution to "bubbled" tons limit of 484.4 tpy PM

Combined heat input x 326 IAC 6-1-12 short term limit x 8760 hrs/yr x heat input/gal:

2 units x 228 MMBtu/hr x 0.015 lbs/MMBtu x ton/2000 lbs x 8760 hr/yr =	29.9 tons PM/yr
2 units x 228 MMBtu/hr x 1 gal/ 0.140 MMBtu x 8760 hr/yr =	28.5 MMgal/yr

Emission Unit ID
 # 12
Foster Wheeler Boiler

Appendix A: Emission Calculations
Industrial Boilers - Pulverized Dry Bottom Wall Fired

Company Name: **ianapolis Power & Light Company (Perry K Steam Plant)**
Address City IN Zip: **336 Kentucky Avenue, Indianapolis, IN 46225**
CP:
Plt ID: **T097-6567-00034**
Reviewer: **M. Caraher**
Date: **5-Jun-98**

Heat Input Capacity
MMBtu/hr

352.0

Potential throughput
tons/yr = 192720.0

8000 Btu / lb coal
5.1 % Sulfur by Weight = S
11 % Ash by Weight = A

	Pollutant					
	PM	SO2	NOx	VOC	CO	PM10
Emission Factor in lb/ton	110.0 *(10A)*	193.8 *(38S)*	21.7	0.06	0.5	25.3 *(2.3A)*
Potential Emission in tons/yr	10599.6	18674.6	2091.0	5.8	48.2	2437.9

Methodology

PI-02 Application form listed 1 pound of coal has a heating value of 8000 Btu per pound

Potential Throughput (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x lb coal / MMBtu x ton /2000 lbs

Emission Factors are from AP 42, Tables 1.1-1, 1.1-3 and 1.1-11

Emission (tons/yr) = Throughput (tons/yr) x Emission Factor (lb/ton)/2,000 lb/ton

	HAPs									
Source of Emfac (Pulverized, dry bottom)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)
	Arsenic	Beryllium	Cadmium	Chromium	Lead	Manganese	Mercury	Nickel	POMs	Formaldehyde
Emission Factor in lb/10^12 Btu	684.0	81	44.4	1570.00	507.0	2980.0	16	1290	2.08	ND
Potential Emission in tons/yr	1.1	0.1	0.1	2.4	0.8	4.6	0.0	2.0	0.0	#VALUE!

Methodology

Emfac in lb/10^12 Btu * max heat input (MMBtu/hr) *1.0E-06* 8760hrs/yr * ton/2000 lbs = potential emissions in tons per year

Compliance Determination
Compliance with 326 IAC 6-1-12 short term limits in pounds per MMBtu will be determined by stack testing

Contribution to "bubbled" tons limit of 484.4 tpy PM

heat input x 326 IAC 6-1-12 short term limit x 8760 hrs/yr x heat input/lb coal:

352 MMBtu/hr x 0.175 lbs/MMBtu x ton/2000 lbs x 8760 hr/yr = 269.8 tons PM/yr
352 MMBtu/hr x 1 lb coal/ 11000 Btu x 8760 hr/yr = 140160 tons coal/yr

Emission Unit ID's
 # 15 & # 16
Babcock & Wilcox Boilers

Appendix A: Emission Calculations
Industrial Boilers - Spreader Stokers

Company Name: olis Power & Light Company (Perry K Steam Plant)
Address City IN Zip: 36 Kentucky Avenue, Indianapolis, IN 4622
CP:
Plt ID: T097-6567-00034
Reviewer: M. Caraher
Date: 5-Jun-98

Heat Input Capacity MMBtu/hr			
		8000	Btu / lb coal
		5.1	% Sulfur by Weight = S
		11	% Ash by Weight = A
324.0	Potential throughput tons/yr =	177390.0	

	Pollutant					
	PM	SO2	NOx	VOC	CO	PM10
Emission Factor in lb/ton	110.0 *(10A)*	193.8 *(38S)*	21.7	0.06	0.5	25.3 *(2.3A)*
Potential Emission in tons/yr	9756.5	17189.1	1924.7	5.3	44.3	2244.0

Methodology

PI-02 Application form listed 1 pound of coal has a heating value of 8000 Btu per pound

Potential Throughput (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x lb coal / MMBtu x ton /2000 lbs

Emission Factors are from AP 42, Tables 1.1-1, 1.1-3 and 1.1-11

Emission (tons/yr) = Throughput (tons/yr) x Emission Factor (lb/ton)/2,000 lb/ton

	HAPs									
Source of Emfac (Spreader Stoker)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)
	Arsenic	Beryllium	Cadmium	Chromium	Lead	Manganese	Mercury	Nickel	POMs	Formaldehyde
Emission Factor in lb/10^12 Btu	542.0	ND	43.0	1570.0	507.0	2170.0	16.0	1290.0	ND	ND
Potential Emission in tons/yr	0.8	#VALUE!	0.1	2.4	0.8	3.3	0.0	2.0	#VALUE!	#VALUE!

Methodology

Emfac in lb/10^12 Btu * max heat input (MMBtu/hr) *1.0E-06* 8760hrs/yr * ton/2000 lbs = potential emissions in tons per yea

Compliance Determination
Compliance with 326 IAC 6-1-12 short term limits in pounds per MMBtu will be determined by stack testing

Contribution to "bubbled" tons limit of 484.4 tpy PM

Combined heat input x 326 IAC 6-1-12 short term limit x 8760 hrs/yr x heat input/lb coal:

2 units x 324 MMBtu/hr x 0.106 lbs/MMBtu x ton/2000 lbs x 8760 hr/yr = 300.8 tons PM/yr
2 units x 324 MMBtu/hr x 1 lb coal/ 11000 Btu x 8760 hr/yr = 258021.8 tons coal/yr

Appendix A: Emission Calculations
Fugitive Dust from Coal Storage & Handling

Coal Storage & Handling fugitive emissions

Company Name: olis Power & Light Company (Perry K Steam Plant)
Address City IN Zip: 6 Kentucky Avenue, Indianapolis, IN 46225
CP:
Plt ID: T097-6567-00034
Reviewer: M. Caraher
Date: 29-Jun-98

1) Storage emissions, which result from wind erosion, are determined by the following calculations (from AP-42 old Chapter 11.2.3):

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
= 9.95 lb/acre/day
where s = 8.6 % silt content of material
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Ep (storage) = Ef*sc*(27 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr) = **157.8 tons/yr PM**

where sc = 3,504,000 tons storage capacity

2) The following calculations determine the amount of emissions created by unpaved roads, based on 8760 hours of use and AP-42, Ch 13.2.2.2

2 trip/hr x
1 mile/trip x
2 miles travelled per hour
8760 hr/yr = 17520 miles per year

Ef = k*5.9*(s/12)*(S/30)*(W/3)^0.7*(w/4)^0.5*((365-p)/365)
= 0.19 lbs/VMT
where k = 0.36 size multiplier)
s = 6 % silt content of unpaved roads
p = 125 days of rain greater than or equal to 0.01 inches
S = 10 miles/hr vehicle speed
W = 2.25 tons average vehicle weight
w = 4 wheels

$$\frac{0.19 \text{ lb/mi} \times 17520 \text{ mi/yr}}{2000 \text{ lb/ton}} =$$ **1.67 tons/yr PM10**

3) The following calculations determine the amount of emissions created by paved roads, based on 8760 hours of use and AP-42, Ch 13.2.1.1

2 trip/hr x
1 mile/trip x
2 miles travelled per hour
8760 hr/yr = 17520 miles per year

Ef = k*(sL/2)^0.65*(W/3)^1.5
= 0.03 lbs PM10/VMT
where k = 0.016 size multiplier)
sL = 9.7 % silt content of unpaved roads
W = 2.25 tons average vehicle weight

$$\frac{0.03 \text{ lb/mi} \times 17520 \text{ mi/yr}}{2000 \text{ lb/ton}} =$$ **0.25 tons/yr PM10**

4) The following calculations determine the amount of emissions created by rai unloading of coal, based on 8760 hours of use and AP-42, Ch 13.2.4.3

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0001 lb/ton
where k = 0.35 (particle size multiplier)
U = 10 mile/hr mean wind speed
M = 17.8 % material moisture content

sc = 3504000 tons/yr

E (load/unload) = (Ef*sc)/(2000 lb/ton) = **0.23 tons/yr PM10**

159.97 tons/yr total fugitive estimate

Appendix A: Emission Calculations

Emission Unit ID Ash-12

Dust from Ash Conveying, Storage & Loadout

Ash Loadout Emissions

Company Name: **Indianapolis Power & Light Company (Perry K Steam Plant)**

Address City IN Zip: **336 Kentucky Avenue, Indianapolis, IN 46225**

CP:

Plt ID: **T097-6567-00034**

Reviewer: **M. Caraher**

Date: **1-Jul-98**

Rotary & Secondary Separators are claimed as integral to the system.

Separators provide 90 % efficiency for flyash

and provide 95 % efficiency for bottom ash

Source claims AP-42 emission factors for cement pneumatic conveying and raw material handling approximate ash emissions and that 20% of flyash is PM10 and 10% of bottom ash is PM10.

AP-42 Table 11.12-2 emfac for pneumatic conveying =	0.27	lbs PM/ton	
SCC 3-05-006-07 emfac for raw material handling =	0.2	lbs PM/ton	
& PM10 =	0.1	lbs PM10/ton	
max process rate for flyash handling =	113	tons/hr	
max process rate for bottom ash handling =	113	tons/hr	
max process rate for flyash unloading =	45	tons/hr	and source rated control eff for enclosure, PM vaccuum to ESP 99 %
max process rate for bottom ash unloading	45	tons/hr	and source rate control eff for enclosure, wetting 95 %

Flyash handling system to silos 2 & 3

PM Uncontrolled = emfac x process rate (1-0.9 eff) =	3.1	lbs PM/hr	PM Uncontrolled = emfac x process rate (1-0.95 eff) =	1.5	lbs PM/hr
PM10 Uncontrolled = emfacxprocess rate (1-0.9 eff)(.2 lbs PM10/lb PM) =	0.6	lbs PM10/hr	PM10 Uncontrolled = emfacxprocess rate(1-0.95 eff)(.1 lbs PM10/lb PM	0.2	lbs PM10/hr
PM Uncontrolled per day = lbs/hr x 24 hrs/day =	73.2	lbs PM/day	PM Uncontrolled per day = lbs/hr x 24 hrs/day =	36.6	lbs PM/day
PM10 Uncontrolled per day = lbs/hr x 24 hrs/day =	14.6	lbs PM10/day	PM10 Uncontrolled per day = lbs/hr x 24 hrs/day =	3.7	lbs PM10/day
PM Uncontrolled tons/yr = lbs/hr x 8760/2000 =	13.4	tons PM/yr	PM Uncontrolled tons/yr = lbs/hr x 8760/2000 =	6.7	tons PM/yr
PM10 Uncontrolled tons/yr = lbs/hr x 8760/2000 =	2.7	tons PM10/yr	PM10 Uncontrolled tons/yr = lbs/hr x 8760/2000 =	0.7	tons PM10/yr

Flyash unloading to trucks

Bottom ash unloading into trucks

PM Uncontrolled = emfac x process rate =	9.0	lbs PM/hr	PM Uncontrolled = emfac x process rate =	9.0	lbs PM/hr
PM10 Uncontrolled = emfac x process rate =	4.5	lbs PM10/hr	PM10 Uncontrolled = emfac x process rate =	4.5	lbs PM10/hr
PM Uncontrolled per day = lbs/hr x 24 hrs/day =	216.0	lbs PM/day	PM Uncontrolled per day = lbs/hr x 24 hrs/day =	216.0	lbs PM/day
PM10 Uncontrolled per day = lbs/hr x 24 hrs/day =	108.0	lbs PM10/day	PM10 Uncontrolled per day = lbs/hr x 24 hrs/day =	108.0	lbs PM10/day
PM Uncontrolled tons/yr = lbs/hr x 8760/2000 =	39.4	tons PM/yr	PM Uncontrolled tons/yr = lbs/hr x 8760/2000 =	39.4	tons PM/yr
PM10 Uncontrolled tons/yr = lbs/hr x 8760/2000 =	19.7	tons PM10/yr	PM10 Uncontrolled tons/yr = lbs/hr x 8760/2000 =	19.7	tons PM10/yr

HAPs Sum

Appendix A: Emission Calculations

Summary HAPs PTE

Company Name: **olis Power & Light Company (Perry K Steam Plant)**
Address City IN Zip: **I6 Kentucky Avenue, Indianapolis, IN 46225**
CP:
Plt ID: **T097-6567-00034**
Reviewer: **M. Caraher**
Date: **22-Mar-99**

	HAPs PTE in tons per year														Actual HAPs Reported per GSD-08	
Source of Emfac	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	NSR Review	EPRI	EPRI
	Arsenic	Beryllium	Cadmium	Chromium	Lead	Manganese	Mercury	Nickel	POMs	Formaldehyde	Flourides	Sulfuric Acid Mist	H2S	Total Reduced Sulfur	HCl	HF
Boiler #11, # 13 & # 14 combined	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	ND	ND	0.0	31.7	0.0	0.0	12.9	5.4
Source of Emfac	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	AP-42 (1.1-13)	NSR Review	NSR Review	NSR Review	NSR Review	EPRI	EPRI
Boiler # 12	1.1	0.1	0.1	2.4	0.8	4.6	0.0	2.0	0.0	ND	ND	ND	ND	ND	20.6	4.6
Boiler # 15	0.8	0.0	0.1	2.4	0.8	3.3	0.0	2.0	0.0	0.0	ND	ND	ND	ND	7.8	1.7
Boiler # 16	0.8	0.0	0.1	2.4	0.8	3.3	0.0	2.0	0.0	0.0	ND	ND	ND	ND	6.7	1.5
Sum	**2.7**	**0.1**	**0.3**	**7.2**	**2.4**	**11.2**	**0.6**	**6.0**	**0.0**	**0.0**	**0.0**	**31.7**	**0.0**	**0.0**	**47.9**	**13.2**

Appendix A: Emission Calculations
Recap of NSR Permit 03/06/98 for Coke Oven Gas/Natural Gas Conversion

Company Name: anapolis Power & Light Company (Perry K Steam Plant)
Address City IN Zip: 336 Kentucky Avenue, Indianapolis, IN 46225
CP:
Plt ID: T097-6567-00034
Reviewer: M. Caraher
Date: 2-Jul-98

Conversion of Boilers 11, 13 and 14 from coal to coke oven gas(COG) and natural gas

Heat input capacity for COG: Boilers 11, 13 and 14 are 382, 411 and 411 mmBtu/hr respectively
Heat input capacity for Natural Gas: Boilers 11, 13 and 14 are 368, 403 and 403 mmBtu/hr respectively

Potential Emissions(based on 8,760 hours per year at rated capacity) per fuel for all three boilers combined in tons per ye

Pollutant	CO	NOx	SO2	PM	PM10	VOC	Pb
COG	189.85	3992.05	7171.99	487.80	487.80	52.74	0.00
Natural Gas	179.97	1285.53	3.09	25.71	25.71	51.42	0.00

Pollutant	Beryllium	Mercury	Fluorides	Sulfuric Acid Mist	Hydrogen Sulfide	Total Reduced Sulfur	Single HAP	Combination of HAP
COG	0.0000	0.04	0.00	76.87	0.00	0.00	21.04	34.63
Natural Gas	0.0000	0.04	0.00	0.01	0.00	0.00	0.78	0.82

NSR Analysis

Baseline Emissions (actual ton per year emissions from coal combustion for boilers 11, 13 and 14 combinec

					1995 usage	tons	mmcf							
Pollutant		1995	1996	'95-96 Average		11	62452	41	1993	1994	3-94 Average	1993 usage	tons	
CO	STEPS	43.83	44.81	44.32		13	37711	29	39.4	35.4	37.40	11	70228	
NOx	STEPS	1493.02	1503.81	1498.42		14	39506	27	1122	1028	1075.00	13	44978	
SO2	STEPS	3090.59	2741.30	2915.95			139669.00	97.00	3087.00	2915.00	3001.00	14.00	42483.00	
PM	See note	106.70	132.50	119.60					128.90	119.90	124.40		157689.00	
PM10	See note	45.92	57.22	51.57	1996 usage				55.20	51.50	53.35	1994 usage		
VOC	STEPS	4.94	4.97	4.96		11.00	63368.00	70.00	5.60	4.80	5.20	11.00	56937.00	
Pb	STEPS	0.05	0.02	0.03		13.00	33891.00	35.00	0.92	0.81	0.87	13.00	37175.00	
Beryllium	AP-42	0.1267	0.1263	0.1265		14.00	41929.00	49.00	0.15	0.14	0.15	14.00	38269.00	
Mercury	AP-42	0.03	0.02	0.02			139188.00	154.00	0.03	0.03	0.03		132381.00	
Fluorides	FIRE databas	16.04	15.01	15.53					17.00	15.20	16.10			
Sulfuric Acid Mist	AP-42	33.13	29.38	31.26			278857.00		33.10	31.20	32.15		290070.00	
Hydrogen Sulfide	Application	0.00	0.00	0.00					0.00	0.00	0.00			
Total Reduced Sulfur	Application	0.00	0.00	0.00					0.00	0.00	0.00			

PM/PM10 based on STEPS and inclusion of condensibles.

Netting Analysis (emissions in tons per year

Pollutant	CO	NOx	SO2	PM	PM10	VOC	Pb	Beryllium	Mercury	Fluorides	Sulfuric Acid Mist	H2S	TRS
Contemporaneous increase from proposed modification													
	143.04	1537.07	2954.76	143.39	65.43	44.04	0.00	0.0000	0.06	0.00	31.67	0.00	0.00
Worst case hr	6600	3370	3609	2575	1175	7315	8760	8760	8760	8760	3609	8760	8760
Contemporaneous decreases													
	44.32	1498.42	2915.95	119.6	51.57	4.96	0.03	0.1265	0.02	15.52	31.26	0	0
Other Contemporaneous increases													
	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Change in Emissions													
	98.72	38.65	38.81	23.79	13.86	39.08	-0.03	-0.13	0.04	-15.52	0.41	0.00	0.00
PSD or Offset Significant Leve													
	100	40	40	25	15	40	0.6	0.0004	0.1	3	7	10	10

Allowable Emission rates in tons per year based on netting out of PSD or Offset revie

Pollutant	CO	NOx	SO2	PM	PM10	VOC	Pb	Beryllium	Mercury	Fluorides	Sulfuric Acid Mist	H2S	TRS
	143.04	1537.07	2954.76	143.39	65.43	44.04	0.00	0.00	0.06	0.00	31.67	0.00	0.00